Keep your eyes on the goal! The impact of consumer goal pursuit on the effectiveness of subtle marketing cues

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Chapter 3

All the Cues We Cannot See: Do Active Alternative Goals Render Consumers Insensitive to In-Store Shopping Cues?

Abstract
Various alternative goals can interfere with the act of shopping, competing for consumers' attentional resources. The authors demonstrate how concurrent activation of an alternative goal next to a shopping goal draws attentional resources away from the shopping goal, rendering consumers less sensitive to in-store shopping cues. They specifically show how an alternative goal moderates consumer responsiveness to assortment cues (i.e., assortment structure). Across four experiments, they demonstrate that *active alternative goals* attenuate consumer responsiveness to assortment structure but that upon *alternative-goal completion*, such responsiveness resurfaces. These effects are particularly visible in the case of complex assortments, which demand more processing capacity from consumers.

Keywords: goals, assortment, choice architecture, attention

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"Perhaps when we find ourselves wanting everything, it is because we are dangerously close to wanting nothing."
Sylvia Plath

People's daily lives are replete with goals, either accomplished or still to be attained, chronic or temporary, greatly desired or less so. Surprisingly, some people report pursuing up to 15 concurrent goals at a time in daily life (Little 1989), and though constantly juggling among multiple goals may prove challenging, it seems to be the only way for them to progress toward attaining these goals. As the pool of resources required for successful goal attainment (e.g., time, effort, attention) is inherently constrained, people constantly need to fine-tune the concurrent demands for such resources (e.g., Louro, Pieters, and Zeelenberg 2007).

In this research, we focus specifically on the attentional consequences of multiple-goal pursuit in a shopping setting. Our basic unit of observation always involves two concurrent goals: a shopping goal and an alternative goal that is independent of the shopping goal. We demonstrate how consumer responsiveness to contextual cues associated with the shopping goal varies as a function of an alternative goal. More specifically, we extend the literature on goal shielding (Shah, Friedman, and Kruglanski 2012) and show that consumer responsiveness is a function of alternative-goal completion, such that an active alternative goal attenuates any impact of in-store shopping cues on consumer choice behavior. By contrast, such cues do affect consumer responses after the alternative goal is attained. Following this direction, we particularly explore consumer sensitivity to assortment cues (i.e., assortment structure—the composition and complexity of assortments; Mantrala et al. 2009). We propose that when an alternative goal is active next to a shopping goal, it uses the attentional resources that would have otherwise been devoted to the shopping goal (Atalay, Bodur, and Bressoud 2017; Janiszewski, Kuo, and Tavassoli 2012). As even the most subtle in-store cue would require at least a minimal amount of consumer attention to be processed, it

follows that active alternative-goal pursuit would thus attenuate the impact of assortment cues on consumer judgment and choice. By contrast, upon completion of an alternative goal, consumer attention is no longer impaired and full attentional capacity can be dedicated to the encountered assortment cues. Consequently, we expect to find evidence of assortment-driven product preferences when an alternative goal is no longer active—that is, upon its completion.

Our research contributes to the literature in three ways. First, we contribute to the literature on multiple-goal pursuit (e.g., Dalton and Spiller 2012; Kruglanski et al. 2002; Louro, Pieters, and Zeelenberg 2007, Swait, Argo, and Li 2018) and also incorporate insights derived from the literature on goal shielding (i.e., inhibition of alternative goals for the sake of the focal one) (Fishbach and Ferguson 2007; Kruglanski et al. 2002; Shah, Friedman, and Kruglanski 2002). Whereas research to date has concentrated predominantly on consumer motivation during multiple-goal pursuit (e.g., Dalton and Spiller 2012) and balancing of multiple concurrent pursuits (e.g., Swait, Argo, and Li 2018), we explore how an alternative goal, active next to a shopping goal, makes consumers less responsive to shopping-related contextual cues. As such, we demonstrate a novel consequence of goal shielding. So far, research has uncovered inhibition of cognitive accessibility of goal-irrelevant constructs (Shah, Friedman, and Kruglanski 2002). We specifically extend the scope of this line of investigation to the area of direct attentional consequences of goal shielding, while zooming in on consumer responsiveness to contextual cues. We demonstrate how consumers become either context driven or insensitive to contextual effects as a function of alternative-goal pursuits. Moreover, research has largely demonstrated goal shielding between two inherently incompatible goals as a phenomenon preventing an incompatible goal from entering working memory, which might further hinder the chances of successful goal attainment (e.g., Fishbach, Friedman, and Kruglanski 2003; Goschke and Dreisbach 2008; Hoffman et al.

2008; Hoffman, Schmeichel, and Baddeley 2012). Our research demonstrates attentional implications of goal shielding for two concurrent, but not incompatible, goals; that is, pursuing one goal does not by definition preclude the pursuit of the other, alternative goal.

Second, our research yields novel and critical insights into the intricacies of context-driven consumers. A wealth of research presents consumers as frequently irrational, making decisions on the spur of the moment, and governed to a large extent by the features of the environment in which they make decisions. Studies have shown how retail atmospherics shape consumer product choices (e.g., Herrmann et al. 2013; Mattila and Wirtz 2001; Morin, Dubé, and Chebat 2007; Roschk, Loureiro, and Breitsohl 2017), whereas service research concentrates frequently on the influence of the servicescape (the physical environment in which a service process takes place) on service perceptions (e.g., Bitner 1990, 1992). Surprisingly, however, while research exploring how contextual factors drive consumer behavior is abundant (Roschk, Loureiro, and Breitsohl 2017), a thorough investigation of when and why such contextual effects fail to surface is still largely underexplored. Moreover, research examining how the context or the use of heuristics (i.e., simple decision rules that simplify the decision-making process; Gigerenzer and Gaissmaier 2011) drives consumer judgment and choice departs from the fundamental supposition that attentional resources need to be constrained for contextual effects to surface (e.g., Mann and Ward 2004; Salmon et al. 2015). In contrast, we demonstrate that a particular supply of attentional resource devoted to the choice task is required for contextual effects to emerge. Thus, we contribute to the stream of research investigating the intricacies of decision-making of context-driven consumers by concentrating on the interplay of alternative goals and shopping goals and their common impact on the responsiveness to assortment cues.

Third, we contribute to the literature on the influence of in-store shopping cues and more directly on the impact of assortment structure on judgment and choice behavior. In

doing so, we reconcile the ongoing debate about consumer preferences for specific product locations, empirically testing Bar-Hillel's (2015) conceptualization of consumer choice patterns and further qualifying resulting propositions. Research on consumer preferences presents mixed conclusions about either greater preference for central (e.g., Atalay, Bodur, and Rasolofoarison 2012; Valenzuela and Raghubir 2009) or more peripheral (Ert and Fleischer 2016; Nisbett and Wilson 1977) product locations within assortments. By empirically demonstrating that assortment structure drives consumer preference for specific product locations (Bar-Hillel 2015), we contribute to developing a more malleable perspective on product-location preferences. We show that when assortments have equivalent options (products varying only in one or a few attributes), consumers tend to select products closer to the center of the assortments. By contrast, choosing products from non-equivalent assortments (products varying in many attributes) shifts consumer product preferences closer to the edge of the assortments. We further qualify these findings by introducing both assortment complexity (thus high information load evoked by the assortment, van Herpen and Pieters 2007) and stages (active vs. completed) in alternative-goal pursuit as our two focal moderators.

3.1 Goals and Context Sensitivity

Pursuing multiple goals at the same time can lead to reduced chances of successful goal attainment because of a lack of attention. Therefore, multiple-goal pursuit often results in goal conflict (Kopetz et al. 2012), inducing goal interference or even inhibition of concurrently active goals. Simultaneous activation of multiple goals is not only resource dependent but also resource consuming (Kruglanski et al. 2002). As a result, simultaneously activated goals compete for attentional resources. The more resources are dedicated to a particular goal, the fewer resources are left for other concurrent alternative-goal pursuits (Kruglanski et al. 2002). Research exploring the distribution of mental resources among

concurrent-goal pursuits sheds light on consequences of such resource distribution among concurrent goals. For example, goal-related constructs associated with alternative goals become less accessible, whereas the cognitive accessibility of the focal goal increases (Förster, Liberman, and Higgins 2005). Furthermore, means associated with attaining alternative goals become devalued because they interfere with the focal goal (e.g., Brendl, Markman, and Messner 2003). Even more notable, shielding the focal goal from alternative-goal pursuits occurs automatically, without conscious realization of the need for goal-focused attentional control (Shah, Friedman, and Kruglanski 2012). In a similar vein, the distribution of attentional resources between two concurrent goals should follow a similar course—the more attentional resources are drawn to a specific goal, the fewer resources are left for the alternative goal. Consequently, contextual cues related to the alternative goal are not *processed*, despite being *seen*. As such, they become inconsequential for consumer judgment and choice. Hence, we propose that assortment cues may affect consumer choice less when an alternative goal is active than when it has already been attained.

More specifically, if an alternative goal is active next to a shopping goal, consumers become less sensitive to in-store shopping cues (e.g., assortment structure) because some of their attentional resources are absorbed by the alternative goal. Consumers dedicate full attentional capacity to the processing of assortments only upon completion of the alternative goal. As a result, they become responsive to shopping-relevant contextual information, such as assortment cues.

3.2 Assortment Effects in the Marketplace

In this research, we concentrate on how consumers make sense of the environment in a retail setting as a function of an alternative goal active next to a shopping goal. Such sense-making entails not only *seeing* specific contextual cues furnished in the retail environment, but also sufficiently *processing* them so that they become influential for subsequent decision-

making. Literature investigating which specific product locations attract the most attention and subsequently have the greatest impact on consumer choice is still equivocal: Research has shown that consumers prefer products not only closer to the center of a choice set (Atalay, Bodur, and Rasolofoarison 2012; Christenfeld 1995; Valenzuela and Raghubir 2009) but also closer to the edge (Ert and Fleischer 2016; Li and Epley 2009; Nisbett and Wilson 1977).

Other research has tried to reconcile these two opposing accounts (Bar-Hillel 2015), providing a systematic overview of examples of consumer preferences for specific product locations found in the literature to date and trying to uncover consistencies in consumer choice patterns. Processing modes of consumers facing various types of assortments have been clarified by the concept of *reachability*—that is, the object that is the easiest to reach is supposed to be chosen (Bar-Hillel 2015). Notably, reachability can operate on both physical and mental levels; thus, consumers will often choose products from the *center* of assortments having equivalent products (assortments with products varying only in a few attributes) because the item located in the middle or close to the middle is physically the closest to them and the choice task does not expect a lot of mental (processing) effort from the chooser. As a result, the centrally located items are also most reachable mentally, since the assortments can be processed holistically due to high similarity of presented options. However, in the case of non-equivalent assortments, in which products vary in multiple attributes, consumers need to process the available options individually and sequentially, starting from the edge (e.g., top left) of the assortment. As a result, when they select products from non-equivalent assortments, edge preference, rather than center preference, is likely. In sum, we propose,

> H_1: Consumers will be more likely to choose products located closer to the center of an assortment when selecting from equivalent assortments.

H_2: Consumers will be more likely to choose products located closer to the edge of an assortment when selecting from non-equivalent assortments.

In addition to empirically testing consumer preferences for specific product locations as a function of assortment structure (equivalent vs. non-equivalent; Bar-Hillel 2015), we extend these findings and qualify them. We expect that the division of attentional resources between the shopping goal and an alternative goal will have consequences particularly when consumers face complex rather than non-complex assortments. That is, making choices from complex choice sets is cognitively taxing and has even been associated with choice overload (Chernev, Böckenholt, and Goodman 2015; Iyengar and Lepper 2005). Indeed, research has found that making single comparisons and engaging in detailed trade-off decisions in the case of complex assortments is both tiring and time consuming (Hamilton and Chernev 2010; Iyengar and Lepper 2000). It is under these conditions that assortment cues may exert the largest influence, such that a center or edge preference may manifest itself. However, since applying these choice biases in itself likely consumes attentional resources, we predict that the impact of assortment cues on choice for complex assortments may be more pronounced when consumers have completed an alternative goal, rather than when alternative goal is still active. Thus:

H_3: Assortment-driven product location preferences as a function of alternative-goal pursuit will arise specifically for complex (vs. noncomplex) assortments.

H_4: Stages in alternative-goal pursuit (active vs. complete) will moderate the impact of assortment structure on the location of the chosen product. More specifically, subtle alterations in the assortment structure will exert a larger effect on consumer product location preferences upon completion of an alternative goal.

3.3 Outline of Experiments

Across four experiments, we demonstrate how subtle manipulations in assortment structure can determine consumer product choices when an alternative goal has already been completed and also how this subtle influence of assortment structure becomes attenuated when an alternative goal is active. We begin by showing that consumers become responsive to assortment cues particularly for complex rather than non-complex assortments (equivalent assortments in Experiment 1 and non-equivalent assortments in Experiment 2), but only upon completion of an alternative goal. Two successive experiments keep the assortment complexity stable, varying primarily equivalence of options (the level of similarity; Bar-Hillel 2015) and stages in alternative-goal pursuit (active goal vs. completed goal). Experiment 3 integrates our findings, varying only the structure of the presented assortments (equivalent vs. non-equivalent), and demonstrates how consumers who have already completed an alternative goal shift the location of their most preferred options depending on the assortment structure. Experiment 4 demonstrates our effects in the field. More specifically, this experiment shows how an alternative goal of satisfying hunger moderates the impact of assortment structure on product choice location. Across the four experiments, we use different product categories to demonstrate our findings. We also employ different operationalizations of our key dependent variable—choice centrality—to validate our results across different experimental procedures. Finally, we rule out an alternative explanation of our findings (i.e., mood).

For all experiments, we report all data exclusions and all conditions and inspect the data for outliers. We use the median absolute deviation (MAD) method to deal with outliers (Leys et al. 2013), implementing the median plus or minus 2.5 times the MAD as a cutoff value for detecting outlying observations. In addition, we exclude all participants who failed to adhere to experimental instructions (e.g., not believing in our alternative-goal pursuit manipulations, as indicated in the funneled debriefing). The results (including all participants) are available in Appendix A.

3.4 Experiment 1

In Experiment 1, we manipulated assortment complexity by exposing participants to either organized or disorganized assortments, expecting that they would perceive the disorganized assortments as more complex (Broniarczyk and Hoyer 2006). We focused exclusively on consumer responsiveness to assortment cues for *equivalent* assortments, which have choice options varying only in a few attributes. To this end, we selected an assortment of chocolate pralines varying only in two attributes: taste and shape (see Appendix B). In line with H_1 and H_3, we expected that consumers would select products closer to the *center* of the assortment of pralines when the assortment was complex (i.e., disorganized). In addition, we expected to observe such responsiveness to assortment structure when an alternative goal had already been completed, but not when it was still active (H_3).

3.4.1 Participants and Design

One hundred twelve students (56.25% male; M_{age} = 20.44, SD = 2.17) participated in a 2 (assortment complexity: organized vs. disorganized) × 2 (alternative goal: active vs. completed) between-subjects design experiment. A sensitivity analysis using G*Power to detect the focal interaction (using a multiple regression fixed model assessing R^2 increase with three predictors) showed that the sample yielded 80% power to detect a small effect (f^2 = .07). Given that this detectable effect is lower than the typical effect size in (social)

psychology (f^2 = .21, Richard, Bond, and Stokes-Zoota 2003), statistical power is not at stake in this study.

Participants were invited to take part in a study with two apparently unrelated parts where they were to select various products and were to play a short game (actually 20 trials of a Stroop task) for which their performance would be recorded. Funneled debriefing confirmed that participants indeed viewed both tasks as unrelated.

3.4.2 Procedure

The 20 trial Stroop task was introduced to our participant as a game in which they in needed to identify the color of each presented word (Klopfer 1996) and so could earn additional money on top of the standard participation fee. For each correct and timely response to a Stroop trial, they received an additional €0.20. We used a modified version of the Stroop task. Affectively neutral words (e.g., "bridge," "ceiling"; Bradley and Lang 1999) appeared in each trial in different colors. The color of the word was supposed to be identified by participants as fast and as accurate as possible. The reason for implementing this modified version of the Stroop task was first not to deplete participants through the use of the traditional version of the Stroop task and provide them with a task that evaluates their reaction times and accuracy. All participants left the lab with €4 as extra payment, regardless of their actual performance on the Stroop task. Depending on the condition, either before (active alternative goal) or after completing the Stroop task (completed alternative goal), in each trial of the game, we asked the participants to pick one product that they preferred the most from an organized or disorganized 7 × 9 assortment of chocolates with nine unique options (see Appendix B).

3.4.2.1 Assortment Complexity

Following prior research (Broniarczyk and Hoyer 2006), we manipulated assortment complexity by presenting participants with either organized (low complexity) or disorganized (high complexity) assortments of praline chocolates. The organized assortment contained nine different types of praline chocolates each presented in a separate column. The disorganized assortment depicted the same range of chocolates, but scattered, and lacking any obvious structure (see Appendix B)

3.4.2.2 Alternative Goal

In the experiment, participants made their choice from organized versus disorganized assortments either while anticipating but *before* actually participating in the Stroop task (i.e., active alternative goal) or *after* having completed the Stroop trials (i.e., completed alternative goal; Gable and Harmon-Jones 2010, 2011).

3.4.2.3 Centrality Scores

To operationalize our dependent variable and demonstrate responsiveness to assortment cues as a function of the interplay of assortment structure and alternative-goal pursuit, we coded how far from the center of the assortment each product choice was located. We coded centrality on a five-point scale. The higher the score, the more centrally the most preferred product was located within the assortment. Thus, the most central product obtained a centrality score of 5; the products located in an adjacent square to the most central product obtained a centrality score of 4, and so forth.

3.4.3 Results and Discussion

We removed responses of nine participants in the experiment, in line with our exclusion criteria, which left an effective sample of 103 participants. We conducted a 2 (assortment complexity: organized vs. disorganized) × 2 (alternative goal: active vs. completed) analysis of variance (ANOVA) on the choice centrality measure. Neither the main effect of the alternative goal ($F < 1$) nor the main effect of the assortment complexity

($F(1, 99) = 2.54$) was significant. However, a significant interaction between assortment complexity and the alternative goal emerged ($F(1, 99) = 3.98$, $p = .05$, $\eta^2 = .04$). In line with H3, assortment cues were only effective when the alternative goal was completed, but not when it was still active. That is, participants who had already completed the Stroop task were more likely to select products closer to the center of the assortment when selecting products from a disorganized assortment ($M = 2.76$, $SD = .97$), rather than organized assortment ($M = 2.04$, $SD = 1.00$; $F(1, 99) = 6.32$, $p = .01$, $\eta^2 = .06$), confirming additionally H1. In contrast, assortment complexity did not affect choice behavior when the alternative goal of winning money via the Stroop task was still active, confirming H_3 ($M_{disorganized} = 2.36$, $SD = 1.04$; $M_{organized} = 2.44$, $SD = 1.09$; $F < 1$; see Figure 3.1).

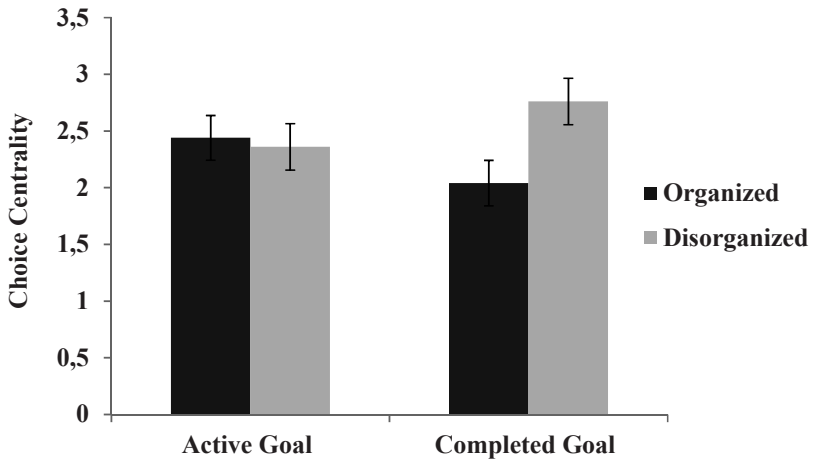


Figure 3.1 Choice Centrality (Organized vs. Disorganized Assortments)
Note: Error bars denote one standard error around the mean.

Experiment 1 demonstrates that the interaction between assortment structure and the alternative-goal pursuit occurs only for complex assortments (H_3). Furthermore, it provides initial evidence that consumers tend to respond to subtle manipulations in the assortment structure when they have already completed an alternative goal but not when the goal is still

active. As such, the experiment lends preliminary evidence to H_1 and H_3. In this experiment, we concentrated specifically on equivalent assortments, demonstrating that consumers tend to pick products located closer to the assortment center when the assortment is equivalent and complex and when the alternative goal of winning additional money does not attenuate responsiveness to shopping-relevant assortment cues. In Experiment 2, we extend our scope of empirical investigation into the domain of non-equivalent assortments to test H_2. In this experiment, we again demonstrate our moderation hypotheses related to assortment complexity and alternative-goal pursuit (H_3).

3.5 Experiment 2

In Experiment 2, we extended the previous study by employing a different approach to manipulating assortment complexity. That is, in line with Messner and Wänke (2011) we manipulated assortment complexity by presenting participants with either small or large assortments. Furthermore, the alternative goal in the present study involved a different task ("game") to assess the robustness of the previous findings. In addition, we extended Experiment 1 by focusing this time on consumer responses to *non*-equivalent assortments, containing choice options varying in multiple attributes. In line with our theorizing (H_2), and in contrast to equivalent assortments, for non-equivalent assortments, we expected complexity (i.e., size of assortment) to yield an edge preference, particularly when an alternative goal had been completed, rather than still active (H_3).

3.5.1 Participants and Design

One hundred nine students (39.45% male; M_{age} = 21.94, SD = 2.54) participated in a 2 (assortment complexity: small vs. large assortment) × 2 (alternative goal: active vs. completed) between-subjects design experiment. Individual sessions lasted approximately 30 minutes. Similar to Experiment 1, we performed a sensitivity analysis using G*Power to detect the focal interaction. This analysis showed that the sample yielded 80% power to

detect a small effect ($f^2 = .07$). We concluded that statistical power was not at stake in this study (Richard, Bond, and Stokes-Zoota, 2003).

3.5.2 Procedure

Participants were invited to play a game and were informed that the researchers would assess their performance during the game. The game consisted of five trials, in which participants performed a flankers task (indicating the direction of a middle arrow in an array of arrows; Eriksen and Eriksen 1974) and a product choice task (we varied the order of the tasks depending on condition, similar to Experiment 1). Participants received €0.40 for each correct response to the flankers task. In addition, participants were informed that they needed to provide timely responses. Ultimately, to simplify the payoff procedure, we took only the correctness of responses into consideration while determining the final compensation.

Participants completed the product choice task either before or after the flankers task, depending on the condition. Thus, in each trial, they were exposed to either small (3 × 3) or large (5 × 5) assortments of various non-equivalent branded food products from different product categories (e.g., tea, yoghurt, curd cheese; Chernev and Hamilton 2009; see Appendix B). To be able to isolate our effects of both assortment structure and an alternative goal and not to confound them with the impact of brand familiarity, we preselected unfamiliar products from foreign, rather than domestic markets. Analysis of a funneled debriefing confirmed that participants were indeed unfamiliar with the presented brands.

3.5.2.1 Assortment Complexity

We adapted the procedure of Chernev and Hamilton (2009) to manipulate assortment complexity. Thus, participants choosing from small assortments were exposed to a 3 × 3 grid containing 9 unique options, while participants assigned to the large assortment condition were asked to select products from a 5 × 5 grid containing 25 unique options. To generalize our results across multiple product categories, we asked participants to indicate their most

preferred choice for various products across five trials of the game. Participants were restricted to making only one choice of the most preferred product in each trial of the game.

3.5.2.2 Alternative Goal

We asked participants to pick one product that they preferred the most from a small or a large assortment either after learning about the flankers task and its reward structure, but *before* actually participating in it (i.e., active alternative goal) or *after* they had completed the flankers task and received monetary compensation (i.e., completed alternative goal). As in Experiment 1, we presented the flankers task and the product choice task as unrelated tasks.

3.5.2.3 Centrality Scores

Per choice we coded product choice centrality as either 2 if the selected product was located along the central column in the assortment or 1 if the product was located on any of the adjacent columns. Then, we summed the centrality scores (ranging from 5 to 10) with higher values indicating more central product choice.

3.5.3 Results and Discussion

We conducted a 2 (assortment complexity: small vs. large) × 2 (alternative goal: active vs. completed) ANOVA on the choice-centrality measure. The main effect of the assortment complexity (small vs. large) was significant ($F(1, 105) = 11.79$, $p < .01$, $\eta^2 = .10$). Participants tended to select products closer to the edge when they were choosing products from large ($M = 5.98$, $SD = 0.90$) rather than small ($M = 6.62$, $SD = 1.01$) assortments. Consistent with H_3, a significant interaction between the assortment complexity and alternative goal emerged ($F(1, 105) = 4.41$, $p = .04$, $\eta^2 = .04$). In line with Experiment 1, assortment cues were again only effective when the alternative goal was completed, but not when it was still active. That is, participants who had already completed the flankers task and learned about the additional money they had won, demonstrated the predicted edge preference effect for non-equivalent assortments. Thus, in line with H2, when these

participants were asked to choose products from large assortments, they were more likely to select from the *edge* of the assortment (M = 5.73, SD = 0.87) than those who were choosing products from small assortments (M = 6.73, SD = 0.96; $F(1, 105)$=15.70, $p < .01$, $\eta^2 = .13$). In contrast, assortment cues failed to influence choice when the alternative goal was still active (M_{large} = 6.26, SD = 0.86; M_{small} = 6.50, SD = 1.07; F < 1; see Figure 3.2).

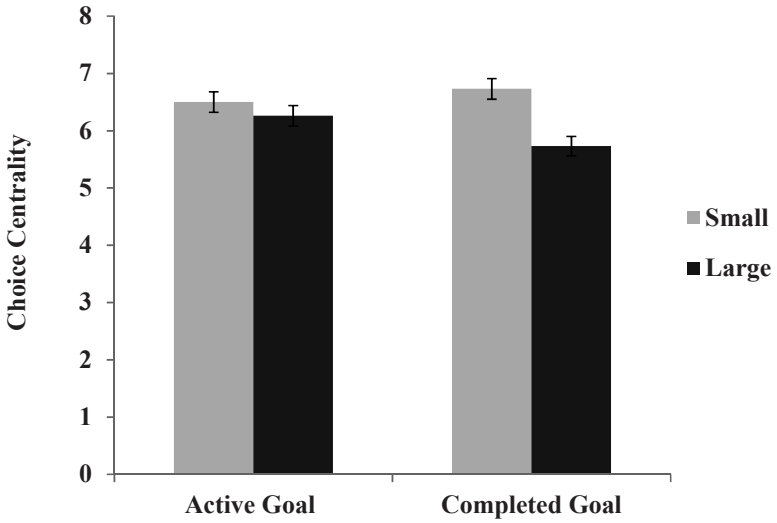


Figure 3.2 Choice Centrality (Small vs. Large Assortments)
Note: Error bars denote one standard error around the mean.

Experiment 2 provides an extension of our findings from Experiment 1 by demonstrating that consumers are more likely to select products from the edge of the assortment when an assortment is more complex (large) and has non-equivalent options. More importantly, this phenomenon occurs only when consumers have already attained an alternative goal, but not when it is still active. Under the latter conditions, contextual cues such as the position of products within a displayed assortment fails to affect judgment and choice.

Experiment 1 demonstrated that upon attainment of an alternative goal, consumers are more likely to select products closer to the *center* of the assortment if the assortment contains *equivalent* options. By contrast, Experiment 2 concentrated on the exploration of consumer preference for specific product locations when faced with *non-equivalent* assortments and demonstrated consumer preference for the *edge* of the assortments in this case. In Experiments 3 and 4, we further validate these results while employing within-subject designs that vary assortment structure as a within-subject factor. Within-subject designs provide more conservative tests of our expectations because they not only remove the variability caused by individual differences (Stevens 2002) but also boost the power of experimental designs (Meyvis and Van Osselaer 2018). As such, the aim of Experiments 3 and 4 is to yield converging evidence of our hypotheses, and to do so by integrating the findings of Experiment 1 and 2.

3.6 Experiment 3

The present experiment extends the results of the previous studies by simultaneously testing the impact of assortment cues on judgment and choice as a function of alternative goal both for equivalent and for non-equivalent assortments. To this end, we again use a game paradigm where task performance is incentivized but we use another method for doing so, to further strengthen the robustness of our findings. In addition, we extend the previous experiments by addressing and ruling out mood as a possible alternative explanation of our findings (Gable and Harmon-Jones 2010, 2011; Posner and Presti 1987; Rowe, Hirsh, and Anderson 2007).

In line with H_1 and H_2, we expected that consumers would select products closer to the *center* of an assortment while choosing from a set of *equivalent* options but would choose products closer to the *edge* of an assortment when faced with *non-equivalent* options. In addition, we demonstrate our moderating hypothesis of alternative-goal pursuit (H_3). We

show that when an alternative goal is still active, subtle alterations in assortment structure do not drive consumer choices. By contrast, upon completion of an alternative goal consumers again become responsive to assortment structure.

3.6.1 Participants and Design

One hundred students (27.2% male; M_{age} = 22.51, *SD* = 3.87) participated in a 2 (assortment structure: equivalent vs. non-equivalent) × 2 (alternative goal: active vs. completed) mixed design experiment that manipulated the alternative goal as a between-subjects and the assortment structure as a within-subjects factor. Individual sessions lasted approximately 15 minutes. We conducted a sensitivity analysis using G*Power to detect the focal interaction, showing that the present sample size was sufficiently able to detect modest effects (f^2 = .04), suggesting that power was adequate in the present study.

3.6.2 Procedure

Participants were invited to play a game and were informed that the researchers would assess their performance during the game. We used the iPhone app Tic-Tac-Toe to allow each participant to play against a smartphone on the difficulty level "easy." The game was played on a 3 × 3 grid, on which one player placed an "X" and the other placed an "O." Each participant played five games in total.

We informed participants that they would be paid according to their performance across the five games. For every win, each participant received €0.80 and for every tie €0.40. The payment was made immediately after the fifth game in cash. The average win per person was €3.27 (*SD* = 0.70). We rounded the payoffs to multiples of €0.50 (€0.50, €1.50, €2.00, …, €4.00) unless the participant was able to provide us with change.

After playing the Tic-Tac-Toe game, we presented participants with two assortments: equivalent (an assortment of generic ice creams) and non-equivalent (a variety of packaged and differentially branded candies). Each assortment consisted of 64 different products that

were arranged on an 8 × 8 grid (see Appendix B). The assortments were displayed to participants sequentially, and we counterbalanced the order of the presentation of both types of assortments. Moreover, each assortment presentation was available in five different versions to randomize all products' locations. Participants were asked to choose one item per trial from each assortment, by clicking on the image of the most desired option.

3.6.2.1 Assortment structure

We varied the assortment structure following previous literature (Bar-Hillel 2015). The equivalent assortment (ice creams) only varied in color and associated flavor. The non-equivalent assortment (candies) varied in multiple attributes such as brand, color, shape, font, flavor, and texture. So as not to confound our results with brand familiarity, we selected foreign products with unfamiliar brands for the domestic. Analysis of funneled debriefing confirmed that participants were indeed unfamiliar with the presented brands.

3.6.2.2 Alternative Goal

We manipulated the alternative goal similar to the previous studies, i.e., whether participants actually played the game and learned about the reward before or after product choice. After learning about the game, in the active alternative goal condition, participants first selected their most preferred products from both assortments and, only then, played the game of Tic-Tac-Toe. In the completed alternative goal condition, participants first played the game and learned about their rewards, and only then selected their most preferred products.

3.6.2.3 Centrality Scores

Our focal dependent variable was the centrality of the product choice, coded from 1 to 7, with the higher values representing a more central option chosen, and lower values representing an edge preference. To generalize our findings, we implemented a different centrality measure. More specifically, our centrality measure took into account both vertical and horizontal centrality while estimating the Euclidean distance from the center of each

chosen option (Hawes and Crittenden 1984, McNamara 1986). Locations that were more horizontally or vertically proximal to the center received higher centrality scores than product locations that were located diagonally from the center.

3.6.2.4 Manipulation Checks

We measured perceived complexity by asking, "How complex was the assortment of ice cream/candies that you just saw?" (nine-point scale; 1 = "not complex at all," 9 = "very complex"). We expected that participants would perceive the non-equivalent assortments as more complex because the options varied in multiple attributes rather than a few (see Bar-Hillel 2015). In addition, we measured the time it took participants to choose from a given assortment, expecting that higher complexity and sequential, rather than simultaneous, processing in the case of non-equivalent assortments (Bar-Hillel 2015), would result in longer choice response latencies.

To rule out mood as a potential alternative explanation, we measured the extent to which participants felt bad/good, sad/happy, and displeased/pleased using 9-point scales (cf. Aarts and Dijksterhuis 2003).

3.6.3 Results and Discussion

We excluded eight participants in accordance with our exclusion criteria ending up with 92 usable responses.

3.6.3.1 Manipulation Checks

Participants perceived non-equivalent assortment as more complex ($M = 5.87$, $SD = 1.75$) than equivalent assortments ($M = 5.39$, $SD = 2.04$, $t(91) = 2.55$, $p < .01$). In addition, corroborating our expectations, participants spent more time selecting products from non-equivalent assortments ($M = 20.80$s, $SD = 13.77$) than equivalent assortments ($M = 11.31$s, $SD = 6.50$, $t(81) = 6.14$, $p < .01$). This supports the success of our manipulation of assortment equivalence.

3.6.3.2 Main Analyses

A repeated measures ANOVA with alternative goal status (active vs. completed) as a between-subjects factor and assortment structure as a within-subject factor revealed a main effect of assortment structure on product centrality score ($F(1, 90) = 9.42$, $p < .01$, $\eta^2 = .10$). Confirming H_1 and H_2, participants selected products located closer to the center of the assortment when they were choosing products from equivalent ($M = 4.24$, $SD = 1.56$) rather than non-equivalent assortments ($M = 3.60$, $SD = 1.40$). More importantly, we identified a significant interaction between assortment structure and alternative goal status ($F(1, 90) = 5.74$, $p = .02$, $\eta^2 = .06$). Additional simple main effects analysis showed that, as predicted in H_3, the interaction was driven by the impact of assortment cues on product choice under conditions of a completed rather than active alternative goal. Under these conditions, equivalent assortments spurred a more pronounced preference for centrally located options (and non-equivalent assortment a more pronounced edge-preference). Thus, participants who had already attained monetary rewards and were selecting products from an equivalent assortment were more likely to select products located closer to the center of the equivalent assortment ($M = 4.50$, $SD = 1.50$) than those who attained monetary rewards and were choosing products from a non-equivalent assortment that showed an edge preference ($M = 3.32$, $SD = 1.49$; $F(1,90) = 14.31$, $p < .01$, $\eta^2 = .14$). In contrast, when the alternative goal was still active, assortment structure did not steer participants to choose products from different locations ($M_{equivalent} = 3.85$, $SD = 1.27$; $M_{non\text{-}equivalent} = 4.00$, $SD = 1.60$; $F < 1$; see figure 3.3). Finally, our manipulations of alternative-goal pursuit did not have an influence on mood ($F(1, 88) = 1.71$, $p = .20$), thus ruling this construct out as an alternate account of our findings.

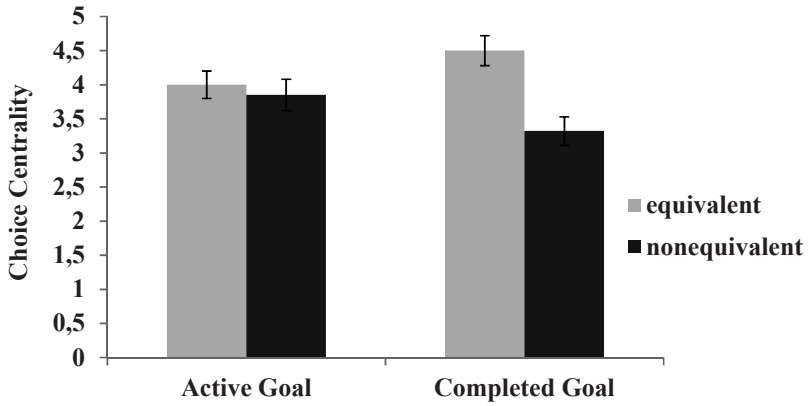


Figure 3.3 Choice Centrality (Equivalents vs. Nonequivalent Assortments)
Note: Error bars denote one standard error around the mean.

Experiment 3 synthesizes our findings from the two previous studies. It demonstrates that when an alternative goal is still active, the subtle influence of assortment structure on consumer decision-making is attenuated. More specifically, participants did not select products from varying locations as a function of the assortment structure. By contrast, upon completion of an alternative goal, consumers shifted locations of their preferred products depending on the assortment structure. They selected products closer to the center when they were presented with an assortment containing equivalent options but chose products closer to the edge when faced with non-equivalent assortments.

3.7 Experiment 4

We conducted the three previous experiments in a controlled lab environment. To further extend our findings, Experiment 4 moves our exploration of assortment effects to the field. To this end, we approached consumers at a fast-food restaurant, either asking them to participate in a small study before they ordered food (i.e., active alternative goal) or after they had ordered and consumed their meal (i.e., completed alternative goal). In line with our notions, we expected that responsiveness to assortment cues surfaces specifically after the alternative goal of satisfying one's appetite was attained, even when assessed in the 'noisy,

real world' outside the lab. In this experiment, as in the previous one, we employed a within-subject manipulation of assortment structure to boost power and guard against the risk of false-positives (Meyvis and van Osselaer, 2018).

We expected that consumers would choose products closer to the *center* of an assortment while choosing from a set of *equivalent* options (H_1) but would select products closer to the *edge* of an assortment when choosing from a set of *non-equivalent* options (H_2). Moreover, we expected alternative goal to modulate these effects such that that when consumers had not yet attained their goal of satisfying their appetite, the subtle influence of assortment structure on their decision-making would be attenuated. In contrast, after having completed their meal, we expected consumers to show increased responsiveness to the structure of presented assortments—showing a tendency to choose products closer to the center of an equivalent assortment and an edge preference when choosing from a non-equivalent assortment (H_3).

3.7.1 Participants and Design

One hundred participants (59.4% male; M_{age} = 26.00, SD = 10.27) were invited to provide their responses in a 2 (assortment structure: equivalent vs. non-equivalent) × 2 (alternative goal: active vs. completed) mixed design experiment, in which we manipulated the alternative goal as a between-subjects and assortment structure as a within-subjects factor. Sensitivity analysis using G*Power yielded the same power to detect modest affects as in Experiment 3, thus again suggesting adequate power.

3.7.2 Procedure

Participants were approached with a survey either before they consumed a meal at a Burger King restaurant (active alternative goals) or after they had already finished their meal (completed alternative goal). Participants were presented with two assortments: equivalent (doughnuts) and non-equivalent (bread spreads). Each assortment contained 99 products,

arranged in a 9 × 11 grid, with 4 or 3 repetitions of the same item (see Appendix B). The assortments were displayed sequentially, and we counterbalanced the order of the presentation of both assortments. Moreover, each assortment presentation was available in five different versions to randomize each products' location in the assortment. Participants were asked to choose one item from each assortment, by indicating the product they preferred the most on the provided grid.

3.7.2.1 Assortment Structure

We varied assortment structure in the same way as in Experiment 3. Hence, the equivalent assortment contained doughnuts, varying in the two most relevant attributes: color and flavor. The non-equivalent assortment (bread spreads) in contrast, varied in multiple attributes such as brand, color, shape, font, and flavor. Again, as in Experiment 3, we selected foreign brands that would be deemed unfamiliar to our participants, which we ascertained via our funneled debriefing.

3.7.2.2 Centrality Scores

Similar to Experiment 3, our core dependent variable was the centrality of choice, coded from 1 to 10, with the higher values representing a more central option chosen. In addition, in line with the previous study, we again recorded our centrality measure while taking into account Euclidean distance.

3.7.2.3 Manipulation Checks

Similar to Experiment 3, we measured perceived complexity by asking, "How complex was the assortment of doughnuts/bread spreads that you just saw?" (nine-point scale; 1 = "not complex at all" 9 = "very complex"). We also measured the time it took participants to choose from a given assortment. In addition, to validate our alternative-goal manipulation, we asked participants how hungry they felt at that particular moment in time (nine-point scale; 1 = "not hungry at all," 9 = "extremely hungry"). We again measured mood

(nine-point scales, with bad/good, sad/happy, and displeased/pleased items; Aarts and Dijksterhuis 2003), with the goal of ruling out this alternative explanation.

3.7.3 Results and Discussion

We excluded seven participants in accordance with our exclusion criteria. We also excluded two participants because of violation of the random assignment procedure used in this field study. These participants were significantly older than the rest of the sample, with age varying more than 3 standard deviations from the sample mean (exclusion based on age differences in cognition [Salthouse 1991, 1996] and information processing [Phillips and Sternthal 1977]).

3.7.3.1 Manipulation Checks

Corroborating our manipulations, participants perceived the non-equivalent assortments as more complex (M = 5.02, SD = 2.12) than the equivalent assortments (M = 4.02, SD = 2.11, $t(88) = 3.28$, $p < .01$). In addition, participants took longer to select products from non-equivalent assortments (M = 19.46s, SD = 11.19) than equivalent assortments (M = 12.08s, SD = 6.86, $t(90) = 5.97$, $p < .01$). Finally, participants reported that they felt more hungry before they ate at Burger King (M = 6.80, SD = 1.49) than after having eaten there (M = 2.87, SD = 2.47; $t(72.1) = 9.14$, $p < .01$).

3.7.3.2 Main Analyses

A repeated measures ANOVA with the alternative goal as a between-subjects factor and assortment structure as a within-subject factor revealed a main effect of assortment structure on product centrality score ($F(1, 89) = 5.49$, $p = .02$, $\eta^2 = .06$), in support of both H_1 and H_2. Participants selected products located more to the center of the assortment when they chose products from equivalent (M = 6.65, SD = 2.13) than non-equivalent assortments (M = 6.07, SD = 2.31). Furthermore, we identified a significant interaction between the assortment structure and the alternative goal ($F(1, 89) = 5.07$, $p = .03$, $\eta^2 = .05$), in support of H_3.

Additional simple main effects analysis showed that the interaction was predominantly driven by participants assigned to the completed-alternative-goal condition who had already satisfied their hunger. Participants who had already eaten and were selecting products from an equivalent assortment were more likely to choose products from the *center* of the equivalent assortment ($M = 6.54$, $SD = 2.12$) than those who had already eaten and were choosing products from a non-equivalent assortment ($M = 5.41$, $SD = 2.32$; $F(1, 89) = 10.67$, $p < .01$, $\eta^2 = .11$). The structure of assortment did not lead participants to choose products from different locations when they were anticipating satisfying their hunger ($M_{equivalent} = 6.76$, $SD = 2.15$; $M_{non\text{-}equivalent} = 6.73$, $SD = 2.11$; $F < 1$, see figure 3.4). Moreover, our alternative-goal state manipulation did not influence mood ($F < 1$).

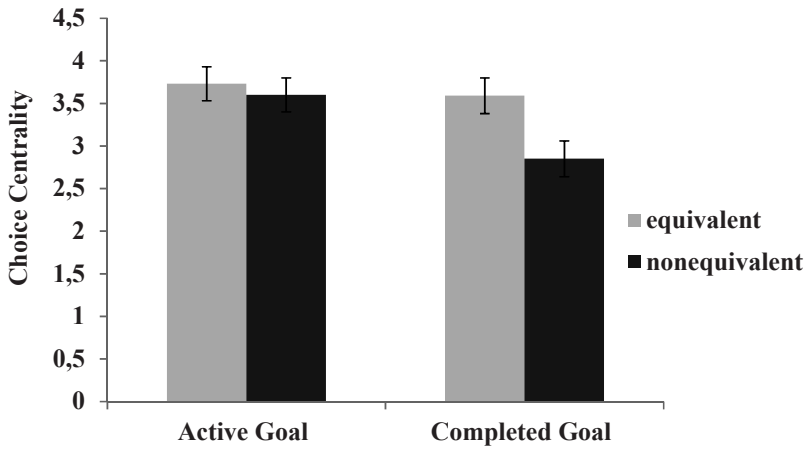


Figure 3.4 Choice Centrality (Equivalent vs. Nonequivalent Assortments)
Note: Error bars denote one standard error around the mean.

3.8 General Discussion

Consumers often pursue multiple goals at the same time, and all these goals compete for a limited pool of attentional resources. This research demonstrates how an alternative-goal pursuit that is independent of a shopping goal can attenuate consumer responsiveness to assortment cues, transforming *context-driven* consumers into *acontextual* ones. We document

our effects both in controlled lab environments and in the field, showing how daily goals can make consumers less susceptible to subtle manipulations in assortment structure when an alternative goal is still active but not when it has already been completed. We demonstrate the interplay of consumers' alternative-goal pursuit and responsiveness to subtle in-store shopping cues, documenting not only the facilitation of such effects upon completion of an alternative goal but also the attenuation of contextual effects when an alternative goal is still active. As such, our research provides a more dynamic and, thus, more realistic perspective on the constant tension between consumers and their environment, specifying a constant goal flux that can determine when consumers become context driven and when contextual effects are attenuated.

Our research on the consumer responsiveness to assortment cues is related to a broader research stream on the *context-driven consumer*, which presents consumer decision-making as often irrational and prompted by subtle environmental influences. Marketing scholars have documented how store environments such as store design cues and store ambient cues (e.g., music) drive consumer value perceptions and, consequently, store patronage intentions (Baker et al. 2002); how scents present in the retail environment boost purchase intentions (Spangenberg, Crowley, and Henderson 1996); and how the presence of subtle contextual cues (e.g., unobtrusively placed mirrors) affects customer satisfaction (Pham et al. 2010). Consistent with our expectations of the susceptibility to subtle manipulations in assortment structure, we also would predict that responsiveness to contextual cues unrelated to alternative goals would not shape consumer judgment and decision-making when an alternative goal is still active. Conversely, we would predict stronger and more frequent contextual influences on consumer decision-making when alternative goals have been completed and, thus, consumers are no longer preoccupied with concurrent-goal pursuits.

Examining contextual effects on consumer decision-making through the lens of consumer well-being, attenuation of these effects could lead to more rational decision-making in the retail space. Research has tied impulse buying to contextual influences (e.g., Donovan et al. 1994; Mattila and Wirtz 2008). Pleasant retail atmospherics can have an effect on consumers, leading to longer time spent in the store and, consequently, more impulsive purchases (Donovan et al. 1994). We expect that attenuation of shopping-relevant contextual effects when an alternative goal is still active could thus also help consumers make less impulsive choices in the marketplace, shielding them from subtle contextual influences.

In addition to extending the scant literature on consumer preference for specific product locations (for notable exceptions, see Atalay, Bodur, and Rasolofoarison 2012; Chandon et al. 2009; Raghubir and Valenzuela 2006; Valenzuela and Raghubir 2009), our research contributes to literature on goals and goal shielding (Fishbach and Ferguson 2007; Kruglanski et al. 2002; Shah, Friedman, and Kruglanski 2002). We demonstrate specific attentional spillover effects of multiple-goal pursuit, showing that consumers become more sensitive to subtle contextual influence after they have completed an alternative goal. An alternative-goal pursuit that competes for attentional resources with a shopping goal induces desensitization to contextual effects, blocking the influence of subtle cues on consumer choice.

Consumer preferences for specific product locations have long been a conundrum for researchers, due to contradictory findings (e.g., Li and Epley 2009; Nisbett and Wilson 1977; Valenzuela and Raghubir 2009) that proved difficult to reconcile. Bar-Hillel's (2015) comprehensive research review suggests that assortment structure (equivalent vs. non-equivalent assortments) could be one of the underlying explanatory factors with regard to consumer preferences for product locations. Our findings are in line with Bar-Hillel's (2015) expectations, corroborating her perspective on consumer product choice from specific

locations and complementing previous findings with a broader perspective on consumer-goal pursuit resulting in the attenuation or facilitation of responsiveness to subtle assortment cues.

3.8.1 Practical Implications

Our findings have various practical implications. With regard to consumer well-being, we advise consumers to plan their small daily purchases at times when alternative goals are active. For example, buying bread on the way to see the most recent blockbuster movie in the theater or before a visit to a restaurant with friends could prevent consumers from impulsive buying induced by assortment structure and various incidental cues present in the stores (e.g., Donovan et al. 1994). In addition, store or restaurant owners willing to encourage consumers to select more healthful options could nudge them into such decisions by adjusting product locations depending on both assortment structure (equivalent vs. non-equivalent) and alternative-goal pursuits most prevalent at specific time and location. For example, shops located where people have multiple active goals (e.g., Albert Heijn to Go stores in the Netherlands located close to train stations and at busy locations across the city) or food stores located next to movie theaters could place more healthful options in locations that are more preferred at specific times (e.g., closer to the edge of the non-equivalent assortments at the end of the day, when people are coming back from work).

Shelf allocation is one of the most important retail strategies, geared to attracting consumer attention to specific products to boost sales (Hwang, Choi, and Lee 2005). Managing shelves and space allocation well can lead not only to increased profits but also to decreased costs. Our research shows that retailers could significantly benefit from understanding the alternative goals that consumers visiting their stores have throughout the day. To do so, they could incorporate more dynamic shelf management by, for example, shifting certain options to the edge or the center of an assortment depending on the assortment structure and time of day. Obtaining more insights into consumer decision-making

in product categories in which shopping is not habitual or based on strong feelings of loyalty could help retailers improve assortment allocation and help consumers by encouraging them to make better choices.

3.8.2 Future Research

This research focused on demonstrating when contextual effects that frequently drive consumer product choices become attenuated or facilitated. One worthwhile research avenue would be to explore other factors that could block the subtle influence of the context on consumer decision-making. Various affective states that are characterized by their cognitive intrusiveness (e.g., anxiety, grief) could make consumers resistant to the subtle influence of the context. A competing alternative would be to investigate when consumer responsiveness to contextual cues becomes more pronounced rather than attenuated. With mindfulness being one of the most dominant directions in the literature investigating consumer well-being (e.g., Brown and Ryan 2003; Howell et al. 2008; Shapiro et al. 2008), a question arises whether mindful consumers fall prey more easily to the subtle influence of the environment. Another emotion that may be particularly relevant in this context is awe—"an emotional response to perceptually vast stimuli that transcends current frames of reference" (Piff et al. 2015, p. 883). Awe diverts attention from the self (Bai et al. 2017; Shiota, Keltner, and Mossman 2007), reduces impatience (Rudd, Vohs, and Aaker 2012), and promotes focus on the present moment (Rudd, Vohs, and Aaker 2012). Thus, experiences of awe may make consumers pay more, rather than less, attention to their environment and, as a result, become more driven by the context. This proposition awaits thorough empirical exploration.

Moreover, we demonstrate not only when the environment shapes consumer decision-making but also when it fails to affect consumer choices. Future research could shed more light on other factors that could interplay with store layouts and the subtle influence of contextual cues, providing a more nuanced view of consumers, whose perceptions are

determined by their motivational states. As the German philosopher Arthur Schopenhauer (2014) said: “Every man takes the limits of his own field of vision for the limits of the world.” Further investigation into these various parallel worlds of consumers, some constrained by currently activated alternative goals and others by personality traits or other situational factors, could help marketers implement more real-time-based and flexible marketing strategies to target customers more efficiently and with offerings that are better tailored to their current needs and wants.

Appendix A

Results Including All Participants

Experiment 1

When we include all 112 participants in this experiment, a main effect of the assortment complexity (organized vs. disorganized) turned out to be significant ($F(1, 108) = 5.09$, $p = .03$, $\eta^2 = .05$). Participants selected products closer to the center when they were choosing products from disorganized ($M = 2.79$, $SD = 1.16$) than organized assortments ($M = 2.31$, $SD = 1.10$). More important, participants who had already attained monetary rewards and were selecting products from a disorganized assortment were more likely to select products closer to the *center* of the assortment ($M = 3.00$, $SD = 1.15$) than participants who attained monetary rewards and were choosing products from an organized assortment ($M = 2.18$, $SD = 1.12$; $F(1, 108) = 7.40$, $p = .01$, $\eta^2 = .06$). Assortment complexity did not steer participants to choose products from different locations when the goal of winning money was merely anticipated ($M_{\text{organized}} = 2.44$, $SD = 1.09$; $M_{\text{disorganized}} = 2.59$, $SD = 1.15$; $F < 1$). The value of the omnibus F-test for the interaction between assortment complexity and the alternative goal failed to reach significance ($F(1, 108) = 2.53$, $p = .11$, $\eta^2 = .02$).

Experiment 3

When we included all 94 participants in this experiment, the main effect of assortment structure on product centrality score emerged ($F(1, 92) = 5.62$, $p = .02$, $\eta^2 = .06$). Participants selected products located closer to the center of the assortment when they were selecting products from equivalent ($M = 4.20$, $SD = 1.57$) than nonequivalent assortments ($M = 3.67$, $SD = 1.47$). More important, participants who had already attained monetary rewards and were selecting products from an equivalent assortment were more likely to select products from the center of the equivalent assortment ($M = 4.41$, $SD = 1.53$) than those who attained monetary rewards and were choosing products from a nonequivalent assortment ($M = 3.48$,

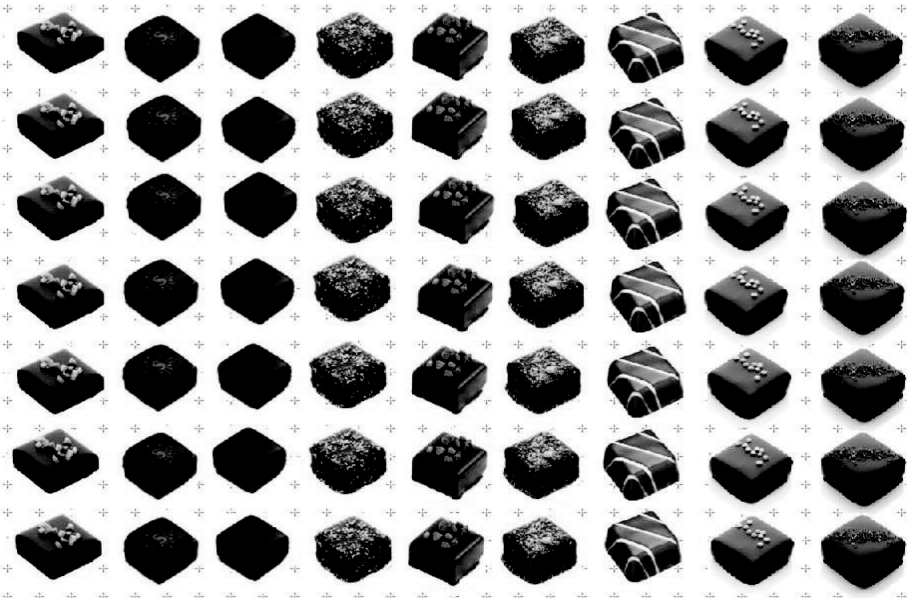
SD = 1.64; $F(1,92) = 8.24$, $p < .01$, $\eta^2 = .08$). When rewards were anticipated, assortment structure did not steer participants to choose products from different locations ($M_{equivalent}$ = 4.00, SD = 1.60; $M_{nonequivalent}$ = 3.85, *SD* = 1.27; $F < 1$). The value of the omnibus F-test for the interaction between the assortment structure and the alternative goal failed to reach significance ($F(1, 92) = 3.00$, $p = .09$, $\eta^2 = .03$).

Experiment 4

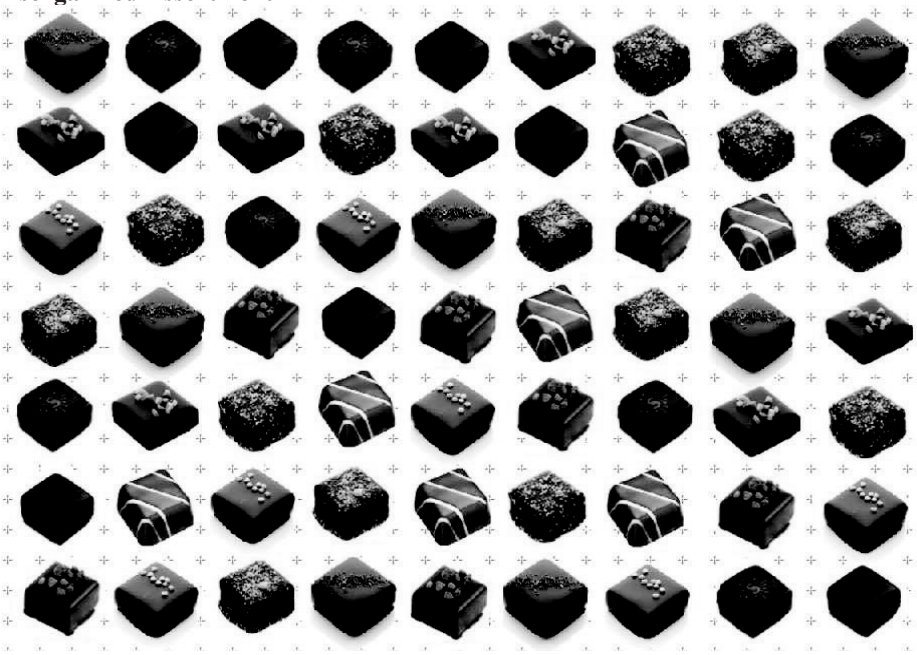
When we included all 100 participants in this experiment, a main effect of assortment structure on product centrality score emerged ($F(1, 98) = 6.87$, $p = .01$, $\eta^2 = .07$). Participants selected products located more to the center of the assortment when they were choosing products from equivalent (*M* = 6.52, *SD* = 2.20) than nonequivalent assortments (*M* = 5.89, *SD* = 2.46). More important, participants who had already eaten and were selecting products from an equivalent assortment were more likely to select products from the *center* of the equivalent assortment (*M* = 6.50, *SD* = 2.21) than participants who had already eaten and were choosing products from a nonequivalent assortment (*M* = 5.54, *SD* = 2.33; $F(1, 98)$ = 7.97, $p < .01$, $\eta^2 = .08$). The structure of assortment did not make participants choose products from different locations when they were anticipating satisfying their hunger ($M_{equivalent}$ = 6.54, *SD* = 2.22, $M_{nonequivalent}$ = 6.24, *SD* = 2.55; $F < 1$). The value of the omnibus F-test for the interaction between the assortment structure and the alternative goal failed to reach significance ($F(1, 98) = 1.88$, $p = .17$, $\eta^2 = .02$).

Appendix B
Methodological Detail Appendix

Experiment 1
Organized Assortment



Disorganized Assortment



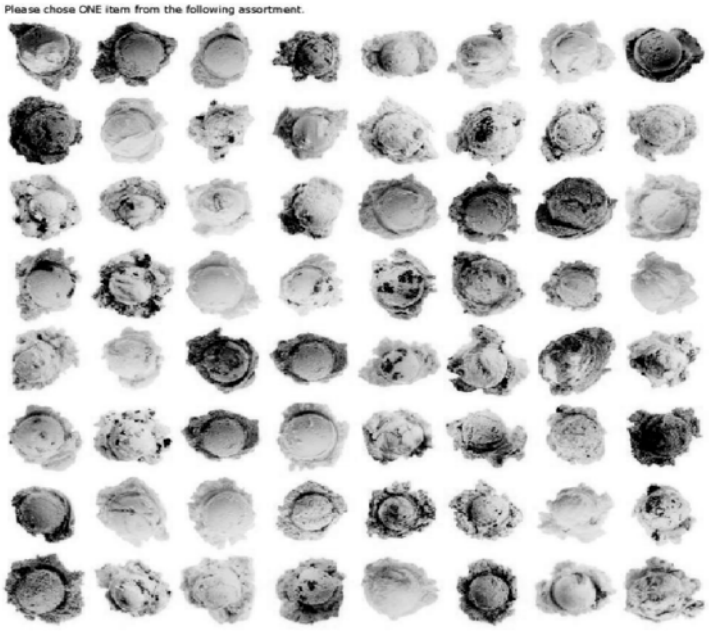
Experiment 2

Small Assortment

Large Assortment

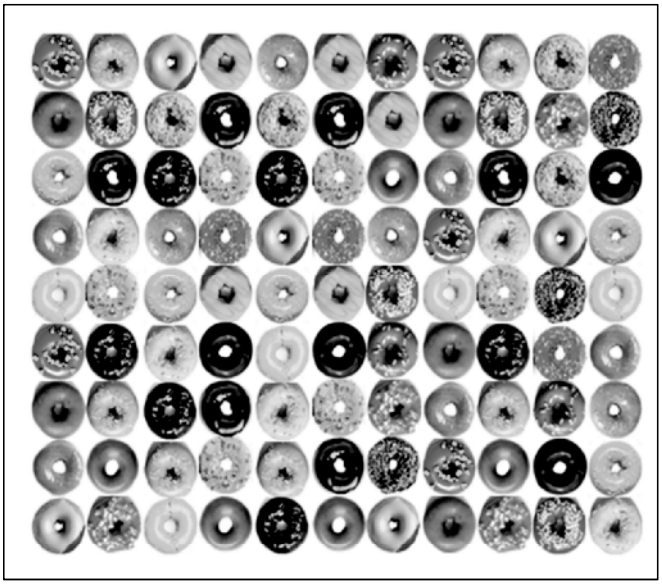
Experiment 3

Equivalent Assortment



Non-equivalent Assortment

Experiment 4
Equivalent Assortment



Non-equivalent Assortment